



Female soldiers` attitudes toward physical fitness standards in soldiers:

**associations with military rank, age,
body composition and fitness level**



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- In the Finnish Defence Forces (FDF), women have been able to voluntarily join to the military service as conscripts since 1995.
- All deployments are open to women if they have the necessary military training including required mental and physical capabilities being tested within the selection process.
- 500 female conscripts in FDF. A total of 250 females currently serve as military personnel in FDF.



- The physiological differences between men and women place women in general at a disadvantage position for the physical fitness demands (Epstein et al. 2013).
 - Women may experience health-related symptoms and other health outcomes differently compared to men, at least during deployment (Trego et al. 2010).
- important to study experiences and attitudes of military women also on physical fitness testing and requirements



Methods

- A survey was conducted in all units in FDF.
- In a total of 362 female soldiers participated voluntarily in the study
 - (68 % conscripts, 2 % cadets, 30 % officers and NCOs).
- Response rate was 48 % among conscripts, 100 % among cadets and 39 % among officers and NCO`s.



Attitudes toward:

1. physical fitness and general physical fitness requirements
 2. task related physical fitness requirements
 3. perceptions about being bullied and experiencing discrimination from physical fitness
- *Statistical analysis:* tests for relative proportions were used within the cross tabulations of outcomes variable and military rank, age, physical fitness and body composition.



- **Personnel group/military rank:**
 1. Conscripts
 2. Non-commissioned officers (NCO)
 3. Officers (including cadets)
- **Age:**
 1. 18-25
 2. 26-35
 3. >35 years.
- **Physical fitness** (12 min running distance):
 1. <2200 m
 2. 2200-2600 m
 3. >2600 m.
- **Body mass index:**
 1. Normal weight (18.5-25)
 2. Overweight (<25)



RESULTS





Results among the entire study population

- 96% soldiers must have a good physical condition.
- 76 % answered that the general physical fitness requirements in the FDF are not too demanding
- 74 % believed that the physical fitness of females is sufficient for everyday and operational duties.
- Majority of the study population (56-76 %) thought that the current minimum requirements for physical fitness are at appropriate level for females.
- However, 57 % replied that there should be different physical fitness standards for male and female soldiers, and 55 % believed that female soldiers could perform their military service or operational duties if fitness requirements would be lower for females.



Results among the entire study population

- Nearly half (48 %) reported that it creates inequality when there are the same physical fitness standards for both genders.
- 42 % felt that if fitness requirements would be lower for females this would cause lack of respect or inferior treatment by their male colleagues.
- 12 % of the females had experienced bullying about their physical fitness.
- 23 % had experienced occasional and 1 % continuous discrimination about their physical fitness.



1. Physical fitness and general physical fitness requirements

	<u>Military rank/Personnel group</u>			<u>Age</u>				<u>12 min running test</u>			<u>Body mass index</u>	
	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>		<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>
	<u>Conscripts</u>	<u>NCO's</u>	<u>Cadets & officers</u>	<u>18-25</u>	<u>26-35</u>	<u>> 35</u>		<u>< 2200 m</u>	<u>2200-2600 m</u>	<u>> 2600 m</u>	<u>< 25</u>	<u>> 25</u>
A soldier must be in good physical condition												
I agree / I somewhat agree (%)	97.2	96.5	91.3	96.5	96.2	95.2		94.0	98.7 *	95.3	96.5	95.2
Neutral (%)	1.4	1.7	2.2	1.3	1.9	2.4		3.0	1.3	0.0	1.2	3.2
I disagree / I somewhat disagree (%)	1.4	1.8	6.5	2.2	1.9	2.4		3.0	0.0	4.7	2.3	1.6
Physical fitness requirements are generally too demanding for female soldiers												
Yes (%)	9.0	31.6 *	6.5 ^	10.0	11.1	31.0 * ^		16.8	9.6	7.0	10.8	17.7
Neutral (%)	13.1	7.0	4.3	13.0	1.9 *	9.5		16.8	25.6	20.9	8.9	19.4 *
No (%)	77.9	61.4 *	89.2 ^	77.1	87.0	59.5 * ^		63.4	82.1 *	90.7 *	80.3	62.9 *



1. Physical fitness and general physical fitness requirements

	<u>Military rank/Personnel group</u>				<u>Age</u>			<u>12 min running test</u>				<u>Body mass index</u>	
	1	2	3		1	2	3	1	2	3		1	2
	<u>Conscripts</u>	<u>NCO's</u>	<u>Cadets & officers</u>		<u>18-25</u>	<u>26-35</u>	<u>>35</u>	<u><2200 m</u>	<u>2200-2600 m</u>	<u>>2600 m</u>		<u><25</u>	<u>>25</u>
Could female soldiers meet the physical fitness demands for conscript service or operational duties if the test requirements would be lower for females than for males													
Yes (%)	58.6	64.9	23.9 * ^		58.4	37.0 *	59.5 ^	68.3	52.6 *	32.6 *		52.5	61.3
Neutral (%)	23.4	17.5	23.9		24.3	16.7	19.1	16.8	25.6	20.9		22.8	22.6
No (%)	18.0	17.6	52.2 * ^		17.3	46.3 *	21.4 ^	14.9	21.8	46.5 * ^		24.7	16.1
The physical fitness requirements are too demanding for female conscripts													
Yes (%)	5.4	1.8	0.0		5.2	1.9	0.0	5.9	3.3	2.3		3.9	5.0
Neutral (%)	15.4	43.6 *	6.5		15.2	9.4	53.7 * ^	29.7	14.9 *	4.7 *		15.2	31.7 *
No (%)	79.2	54.5 *	93.5 * ^		79.6	88.7	46.3 * ^	64.4	81.8 *	93.0 *		80.9	63.3 *



2. Task related physical fitness requirements

	<u>Military rank/Personnel group</u>				<u>Age</u>				<u>12 min running test</u>				<u>Body mass index</u>	
	1	2	3		1	2	3		1	2	3		1	2
	<u>Conscripts</u>	<u>NCO's</u>	<u>Cadets & officers</u>		<u>18-25</u>	<u>26-35</u>	<u>> 35</u>		<u>< 2200 m</u>	<u>2200-2600 m</u>	<u>> 2600 m</u>		<u>< 25</u>	<u>> 25</u>
The minimum requirement for the 12 minute running test in the National Defence University entrance exam is 2600 m. the requirement is:														
Too low (%)	2.3	0.0	4.4		2.2	3.7	0.0		0.0	1.9	9.3		2.7	0.0
Appropriate	80.5	55.2 *	82.6		80.0	77.8	53.5 * ^		71.3	79.5	83.7		79.1	64.5 *
Too demanding	17.2	44.8 *	13.0		0.0	18.5	46.5 * ^		28.7	18.6	7.0 *		18.2	35.5 *



2. Task related physical fitness requirements

	<u>Military rank/Personnel group</u>				<u>Age</u>			<u>Physical fitness (12 min running test)</u>				<u>Body mass index</u>	
	1	2	3		1	2	3	1	2	3		1	2
	<u>Conscripts</u>	<u>NCO's</u>	<u>Cadets & officers</u>		18-25	26-35	> 35	< 2200 m	2200-2600 m	> 2600 m		< 25	>25
For international crisis management and peacekeeping missions the minimum requirement for the 12 minute running test is 2500 m for <u>operational duties</u> . I think that for females the requirement is:													
Too low	22.1	8.6 *	30.4 ^		22.1	25.9	7.0 * ^	8.8	22.4 *	48.8 * ^		23.6	9.7 *
Appropriate	73.4	65.5	65.3		74.0	64.8	60.5	74.5	73.1	48.8 * ^		70.6	74.3
Too demanding	4.5	25.9 *	4.3		3.9	9.3	32.5 * ^	16.7	4.5 *	2.4 *		5.8	16.1 *

For international crisis management and peacekeeping missions the minimum requirement for the 12 minute running test is 2300 m for staff, support and military observer positions. I think that for females the requirement is:													
Too low	32.0	21.1	45.7 ^		32.5	44.4	11.9 * ^	17.8	34.6 *	62.8 * ^		36.7	12.9 *
Appropriate	67.1	71.9	54.3		66.6	53.7	81.0 ^	79.2	64.1 *	37.2 * ^		61.8	85.5 *
Too demanding	0.9	7.0	0.0		0.9	1.9	7.1 *	3.0	1.3	0.0		1.5	1.6



3. Perceptions about being bullied and experiencing discrimination from physical fitness

	<u>Military rank/Personnel group</u>				<u>Age</u>			<u>Physical fitness (12 min running test)</u>				<u>Body mass index</u>	
	1	2	3		1	2	3	1	2	3		1	2
	<u>Conscripts</u>	<u>NCO's</u>	<u>Cadets & officers</u>		<u>18-25</u>	<u>26-35</u>	<u>> 35</u>	<u>< 2200 m</u>	<u>2200-2600 m</u>	<u>> 2600 m</u>		<u>< 25</u>	<u>>25</u>
I have been bullied about my physical fitness during military service or military career													
I agree / I somewhat agree	11.3	15.8	10.9		11.3	14.8	11.9	17.8	9.0 *	7.0		9.7	21.0 *
<u>Neutral</u>	7.6	1.7	4.3		6.5	5.6	7.1	9.9	5.1	2.3		5.0	11.3
I disagree / I somewhat disagree	81.1	82.5	84.8		82.2	79.6	81.0	72.3	85.9 *	90.7 *		85.3	67.7
How often have you experienced discrimination because of your physical fitness?													
<u>Never</u>	73.1	81.0	82.6		75.1	75.9	79.1	71.6	77.9	81.4		78.6	66.2 *
<u>Occasionally</u>	25.5	19.0	17.4		24.5	20.4	20.9	25.5	22.1	18.6		21.0	30.6
<u>Continuously</u>	1.4	0.0	0.0		0.4	3.7	0.0	2.9	0.0	0.0		0.4	3.2



Primary findings

- NCO's, older soldiers, overweight and females with lower physical fitness:
 - the physical demands and minimum fitness requirements are too high for female soldiers
 - the physical fitness tests and standards should be gender-specific.
 - gender-specific tests would not create inequality
- Lower fitness and overweight associated with:
 - higher prevalence of being bullied due to physical fitness
- overweight associated with:
 - experiences about discrimination because of physical fitness



Practical applications and conclusions

- Although over half of the females in the present study would like to have gender-specific fitness tests and requirements
 - creating task-related requirements and thereby possible reducing the inequality experiences derived from male vs. female differences in physical fitness?



Practical applications and conclusions

- 12% had experienced being bullied, and 23% had experienced occasional and 1% continuous discrimination due to their physical fitness.
 - A call for finding ways for prevention of being bullied and discriminated because of physical fitness.
 - More information about zero tolerance in FDF about bullying and discrimination is needed.
 - Educating the recognition of these situations and further educating of solving the problems as a means of preventive actions is also necessary.



Thank you!

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